

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/565,371
Source: IFWP
Date Processed by STIC: 1/27/06

ENTERED

CRF Errors Edited by the STIC Systems Branch

Serial Number: 10/565,371

CRF Edit Date: 1/30/06
Edited by: me

___ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

___ Corrected the SEQ ID NO. Sequence numbers edited were:

___ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

___ Deleted: invalid beginning/end-of-file text ; ___ page numbers

___ Inserted mandatory headings/numeric identifiers, specifically:

___ Moved responses to same line as heading/numeric identifier, specifically:

___ Other:



IFWP

RAW SEQUENCE LISTING

DATE: 01/30/2006

PATENT APPLICATION: US/10/565,371

TIME: 16:04:02

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\01302006\J565371.raw

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5 <110> APPLICANT: TRANSGENE S.A.
7 <120> TITLE OF INVENTION: Novel multifunctional cytokines
9 <130> FILE REFERENCE: H2216 PCT S3
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/565,371
C--> 11 <141> CURRENT FILING DATE: 2006-01-23
11 <150> PRIOR APPLICATION NUMBER: PCT/EP2004/008114
12 <151> PRIOR FILING DATE: 2004-07-20
14 <150> PRIOR APPLICATION NUMBER: EP 03 36 0086.7
15 <151> PRIOR FILING DATE: 2003-07-21
17 <150> PRIOR APPLICATION NUMBER: US 60/539,320
18 <151> PRIOR FILING DATE: 2004-01-28
20 <160> NUMBER OF SEQ ID NOS: 59
22 <170> SOFTWARE: PatentIn version 3.1
26 <210> SEQ ID NO: 1
28 <211> LENGTH: 345
30 <212> TYPE: PRT
32 <213> ORGANISM: artificial sequence
34 <220> FEATURE:
35 <221> NAME/KEY: source
36 <223> OTHER INFORMATION: /note= "Description of artificial sequence: fusion human
37     IL-7/linker/human IL-2"
41 <400> SEQUENCE: 1
43 Met Phe His Val Ser Phe Arg Tyr Ile Phe Gly Leu Pro Pro Leu Ile
44 1           5           10           15
47 Leu Val Leu Leu Pro Val Ala Ser Ser Asp Cys Asp Ile Glu Gly Lys
48           20           25           30
51 Asp Gly Lys Gln Tyr Glu Ser Val Leu Met Val Ser Ile Asp Gln Leu
52           35           40           45
55 Leu Asp Ser Met Lys Glu Ile Gly Ser Asn Cys Leu Asn Asn Glu Phe
56           50           55           60
59 Asn Phe Phe Lys Arg His Ile Cys Asp Ala Asn Lys Glu Gly Met Phe
60 65           70           75           80
64 Leu Phe Arg Ala Ala Arg Lys Leu Arg Gln Phe Leu Lys Met Asn Ser
65           85           90           95
68 Thr Gly Asp Phe Asp Leu His Leu Leu Lys Val Ser Glu Gly Thr Thr
69           100          105          110
72 Ile Leu Leu Asn Cys Thr Gly Gln Val Lys Gly Arg Lys Pro Ala Ala
73           115          120          125
76 Leu Gly Glu Ala Gln Pro Thr Lys Ser Leu Glu Glu Asn Lys Ser Leu
77           130          135          140
80 Lys Glu Gln Lys Lys Leu Asn Asp Leu Cys Phe Leu Lys Arg Leu Leu
81 145          150          155          160
84 Gln Glu Ile Lys Thr Cys Trp Asn Lys Ile Leu Met Gly Thr Lys Glu

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Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\01302006\J565371.raw

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85          165          170          175
88 His Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser
89          180          185          190
92 Met Tyr Arg Met Gln Leu Leu Ser Cys Ile Ala Leu Ser Leu Ala Leu
93          195          200          205
96 Val Thr Asn Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
97          210          215          220
100 Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
101 225          230          235          240
104 Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
105          245          250          255
108 Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
109          260          265          270
112 Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
113          275          280          285
116 Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
117          290          295          300
120 Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
121 305          310          315          320
124 Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
125          325          330          335
128 Cys Gln Ser Ile Ile Ser Thr Leu Thr
129          340          345
132 <210> SEQ ID NO: 2
134 <211> LENGTH: 333
136 <212> TYPE: PRT
138 <213> ORGANISM: artificial sequence
140 <220> FEATURE:
141 <221> NAME/KEY: source
142 <223> OTHER INFORMATION: /note= "Description of artificial sequence: fusion murine
143     IL7/linker/murine IL-2"
145 <400> SEQUENCE: 2
147 Met Phe His Val Ser Phe Arg Tyr Ile Phe Gly Ile Pro Pro Leu Ile
148 1          5          10          15
151 Leu Val Leu Leu Pro Val Thr Ser Ser Glu Cys His Ile Lys Asp Lys
152          20          25          30
155 Glu Gly Lys Ala Tyr Glu Ser Val Leu Met Ile Ser Ile Asp Glu Leu
156          35          40          45
159 Asp Lys Met Thr Gly Thr Asp Ser Asn Cys Pro Asn Asn Glu Pro Asn
160          50          55          60
163 Phe Phe Arg Lys His Val Cys Asp Asp Thr Lys Glu Ala Ala Phe Leu
164 65          70          75          80
167 Asn Arg Ala Ala Arg Lys Leu Lys Gln Phe Leu Lys Met Asn Ile Ser
168          85          90          95
171 Glu Glu Phe Asn Val His Leu Leu Thr Val Ser Gln Gly Thr Gln Thr
172          100          105          110
175 Leu Val Asn Cys Thr Ser Lys Glu Glu Lys Asn Val Lys Glu Gln Lys
176          115          120          125
179 Lys Asn Asp Ala Cys Phe Leu Lys Arg Leu Leu Arg Glu Ile Lys Thr

```

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Output Set: N:\CRF4\01302006\J565371.raw

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180      130      135      140
183 Cys Trp Asn Lys Ile Leu Lys Gly Ser Ile Gly Gly Gly Ser Gly
184 145      150      155      160
187 Gly Gly Gly Ser Met Tyr Ser Met Gln Leu Ala Ser Cys Val Thr Leu
188      165      170      175
191 Thr Leu Val Leu Leu Val Asn Ser Ala Pro Thr Ser Ser Ser Thr Ser
192      180      185      190
195 Ser Ser Thr Ala Glu Ala Gln Gln Gln Gln Gln Gln Gln Gln Gln
196      195      200      205
199 Gln Gln His Leu Glu Gln Leu Leu Met Asp Leu Gln Glu Leu Leu Ser
200      210      215      220
203 Arg Met Glu Asn Tyr Arg Asn Leu Lys Leu Pro Arg Met Leu Thr Phe
204 225      230      235      240
207 Lys Phe Tyr Leu Pro Lys Gln Ala Thr Glu Leu Lys Asp Leu Gln Cys
208      245      250      255
211 Leu Glu Asp Glu Leu Gly Pro Leu Arg His Val Leu Asp Leu Thr Gln
212      260      265      270
215 Ser Lys Ser Phe Gln Leu Glu Asp Ala Glu Asn Phe Ile Ser Asn Ile
216      275      280      285
219 Arg Val Thr Val Val Lys Leu Lys Gly Ser Asp Asn Thr Phe Glu Cys
220      290      295      300
223 Gln Phe Asp Asp Glu Ser Ala Thr Val Val Asp Phe Leu Arg Arg Trp
224 305      310      315      320
227 Ile Ala Phe Cys Gln Ser Ile Ile Ser Thr Ser Pro Gln
228      325      330
231 <210> SEQ ID NO: 3
233 <211> LENGTH: 330
235 <212> TYPE: PRT
237 <213> ORGANISM: artificial sequence
239 <220> FEATURE:
240 <221> NAME/KEY: source
241 <223> OTHER INFORMATION: /note= "Description of artificial sequence: fusion human
242      IL-2/linker/human IL-15"
246 <400> SEQUENCE: 3
248 Met Tyr Arg Met Gln Leu Leu Ser Cys Ile Ala Leu Ser Leu Ala Leu
249 1      5      10      15
253 Val Thr Asn Ser Ala Pro Thr Ser Ser Thr Lys Lys Thr Gln Leu
254      20      25      30
257 Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
258      35      40      45
261 Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
262      50      55      60
265 Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
266 65      70      75      80
269 Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
270      85      90      95
273 Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
274      100      105      110
277 Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/565,371

DATE: 01/30/2006

TIME: 16:04:02

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\01302006\J565371.raw

```

278      115      120      125
281 Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
282      130      135      140
285 Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Ser Gly Gly
286 145      150      155      160
289 Gly Gly Ser Gly Gly Gly Ser Met Arg Ile Ser Lys Pro His Leu
290      165      170      175
293 Arg Ser Ile Ser Ile Gln Cys Tyr Leu Cys Leu Leu Leu Asn Ser His
294      180      185      190
297 Phe Leu Thr Glu Ala Gly Ile His Val Phe Ile Leu Gly Cys Phe Ser
298      195      200      205
301 Ala Gly Leu Pro Lys Thr Glu Ala Asn Trp Val Asn Val Ile Ser Asp
302      210      215      220
305 Leu Lys Lys Ile Glu Asp Leu Ile Gln Ser Met His Ile Asp Ala Thr
306 225      230      235      240
309 Leu Tyr Thr Glu Ser Asp Val His Pro Ser Cys Lys Val Thr Ala Met
310      245      250      255
313 Lys Cys Phe Leu Leu Glu Leu Gln Val Ile Ser Leu Glu Ser Gly Asp
314      260      265      270
317 Ala Ser Ile His Asp Thr Val Glu Asn Leu Ile Ile Leu Ala Asn Asn
318      275      280      285
321 Ser Leu Ser Ser Asn Gly Asn Val Thr Glu Ser Gly Cys Lys Glu Cys
322      290      295      300
325 Glu Glu Leu Glu Glu Lys Asn Ile Lys Glu Phe Leu Gln Ser Phe Val
326 305      310      315      320
329 His Ile Val Gln Met Phe Ile Asn Thr Ser
330      325      330
333 <210> SEQ ID NO: 4
335 <211> LENGTH: 330
337 <212> TYPE: PRT
339 <213> ORGANISM: artificial sequence
341 <220> FEATURE:
342 <221> NAME/KEY: source
343 <223> OTHER INFORMATION: /note= "Description of artificial sequence: fusion human
344      IL-15/linker/human IL-2"
348 <400> SEQUENCE: 4
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351 1      5      10      15
354 Leu Cys Leu Leu Leu Asn Ser His Phe Leu Thr Glu Ala Gly Ile His
355      20      25      30
358 Val Phe Ile Leu Gly Cys Phe Ser Ala Gly Leu Pro Lys Thr Glu Ala
359      35      40      45
362 Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu Asp Leu Ile
363      50      55      60
366 Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser Asp Val His
367 65      70      75      80
370 Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu Glu Leu Gln
371      85      90      95
374 Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asp Thr Val Glu

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/565,371

DATE: 01/30/2006

TIME: 16:04:02

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\01302006\J565371.raw

```

375          100          105          110
379 Asn Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser Asn Gly Asn Val
380          115          120          125
383 Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Glu Lys Asn Ile
384          130          135          140
387 Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met Phe Ile Asn
388 145          150          155          160
391 Thr Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
392          165          170          175
395 Ser Met Tyr Arg Met Gln Leu Leu Ser Cys Ile Ala Leu Ser Leu Ala
396          180          185          190
399 Leu Val Thr Asn Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln
400          195          200          205
404 Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly
405          210          215          220
408 Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys
409 225          230          235          240
412 Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu
413          245          250          255
416 Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser
417          260          265          270
420 Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val
421          275          280          285
424 Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr
425          290          295          300
428 Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr
429 305          310          315          320
432 Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr
433          325          330
436 <210> SEQ ID NO: 5
438 <211> LENGTH: 350
440 <212> TYPE: PRT
442 <213> ORGANISM: artificial sequence
444 <220> FEATURE:
445 <221> NAME/KEY: source
446 <223> OTHER INFORMATION: /note= "Description of artificial sequence: fusion signal

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IL-2/

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447          human IL-15/linker/human IL-2"
451 <400> SEQUENCE: 5
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454 1          5          10          15
457 Val Thr Asn Ser Met Arg Ile Ser Lys Pro His Leu Arg Ser Ile Ser
458          20          25          30
461 Ile Gln Cys Tyr Leu Cys Leu Leu Leu Asn Ser His Phe Leu Thr Glu
462          35          40          45
465 Ala Gly Ile His Val Phe Ile Leu Gly Cys Phe Ser Ala Gly Leu Pro
466          50          55          60
469 Lys Thr Glu Ala Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile
470 65          70          75          80
473 Glu Asp Leu Ile Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu

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VERIFICATION SUMMARY

PATENT APPLICATION: US/10/565,371

DATE: 01/30/2006

TIME: 16:04:03

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\01302006\J565371.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No

L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date

**Raw Sequence Listing before editing,
for reference only**



IFWP

RAW SEQUENCE LISTING

DATE: 01/27/2006

PATENT APPLICATION: US/10/565,371

TIME: 14:34:46

Input Set : A:\H2216PCT_correctedsequence.txt

Output Set: N:\CRF4\01272006\J565371.raw

5 <110> APPLICANT: TRANSGENE S.A.
 7 <120> TITLE OF INVENTION: Novel multifunctional cytokines
 9 <130> FILE REFERENCE: H2216 PCT S3
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/565,371
 C--> 12 <141> CURRENT FILING DATE: 2006-01-23
 14 <150> PRIOR APPLICATION NUMBER: EP 03 36 0086.7
 15 <151> PRIOR FILING DATE: 2003-07-21
 17 <150> PRIOR APPLICATION NUMBER: US 60/539,320
 18 <151> PRIOR FILING DATE: 2004-01-28
 20 <160> NUMBER OF SEQ ID NOS: 59
 22 <170> SOFTWARE: PatentIn version 3.1

ERRORED SEQUENCES

2761 <210> SEQ ID NO: 59
 2763 <211> LENGTH: 49
 2765 <212> TYPE: DNA
 2767 <213> ORGANISM: artificial sequence
 2769 <220> FEATURE:
 2770 <221> NAME/KEY: source
 2771 <223> OTHER INFORMATION: /note= "Description of artificial sequence: 3' linker
 primer
 2772 for generating the mIL15/IL2 fusion"
 2776 <400> SEQUENCE: 59
 2777 agagccacct ccgcctgaac cgcctccacc cttgtcatcg tcgtccttg 49
 E--> 2780 1
 E--> 2783 45

**Does Not Comply
Corrected Diskette Needed**

VERIFICATION SUMMARY

DATE: 01/27/2006

PATENT APPLICATION: US/10/565,371

TIME: 14:34:47

Input Set : A:\H2216PCT_correctedsequence.txt

Output Set: N:\CRF4\01272006\J565371.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application Number
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:2780 M:254 E: No. of Bases conflict, this line has no nucleotides.
M:254 Repeated in SeqNo=59